

## Computational Simulation of Language Behavior

LIX015M05, 2013–2014 Semester II

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**Course Description:** This course on the use of simulations for studying language behavior may vary in focus, e.g. focusing one year on the acquisition of (one of) phonology, morphology or syntax, or another year on sentence processing and lexical access, or on the (social) diffusion of linguistic variation. The intention is that students familiarize themselves with the area under study in a given year, and thereby with the more general opportunities and limitations on the use of simulations in scientific inquiry.

This year's focus will be on *learning linguistic categories*, with special emphasis on learning phonetic categories. Students are encouraged to suggest areas of language behavior they are interested in as topics of discussion during this course.

**Course Objectives:** After completing this course, students should understand the use of simulations in cognitive sciences, be familiar with the modeling and simulation work in the area of focus, and be able to (critically) read the recent research in the field.

**Prerequisites:** The course assumes familiarity with basic concepts of computational linguistics and machine learning. The course is aimed at students in research masters' programs, which assumes serious motivation and scientific maturity.

### Evaluation:

Evaluation will be based on:

- Leading discussions on one or two papers. (10%)
- Contributions to discussions during the discussion of each paper. (10%)
- A term paper (5-8pp), preferably describing and reporting results of a simulation of a new model of human behavior, or variation of an existing computational model. A brief summary and critique of an existing model or paper may also be a possible topic for the term paper. (70 or 80%)
- (possibly) Critical review of one or two peer papers. (10%)

**Course Web Page:** <http://www.let.rug.nl/coltekin/lsim2014/>

**Course Outline (tentative):**

<b>Week</b>	<b>Subject</b>	<b>Reading</b>
1	Organization & Introduction	none
2	Language acquisition & category learning	TBD
3	Paper presentations	TBD
4	Paper presentations	TBD
5	Paper presentations	TBD
6	Paper presentations	TBD
7	Paper presentations	TBD
??	Project presentations	

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**Office Hours:** TBA